

Technical

Metric Conversion

1 inch=2.540 centimeters

1 cm= 0.394 inches

39.37 inches= 1 meter

3.281 feet= 1 meter

Foot Candle= candle power/distance squared

Foot Candle= Amount of light falling on 1 square foot-one foot from a standard 3/4" candle

Foot Candle= 1 lumen per square foot

Foot Candle= 10.7639 Lux

1 Lux=0.0929 Foot Candles

Copper Wire Resistance

Gauge A.W.G.	Feet per OHM	Ohms Per 1000 Ft.
#18	153.6	8.21
#16	244.5	4.09
#14	387.6	2.58
#12	617.3	1.62
#10	980.4	1.02
#8	1560.0	0.6941

Stranded Copper Wire Specs

Gauge A.W.G.	Area in Circular mills	#Strands	Size of individual strand
#18	1620	16	.010cm (#30 AWG)
#16	2580	26	.010cm (#30 AWG)
#14	4110	41	.010cm (#30 AWG)
#12	6530	65	.010cm (#30 AWG)
#10	10400	104	.010cm (#30 AWG)
#8	16500	168	.010cm (#30 AWG)

Section 310-16 NEC Ampacities Of Cable Directly Buried

Gauge AMPS

#18	10
#16	13
#14	15
#12	20
#10	25
#8	40

12V at Powercenter™; 100 ft. #12-2 with 50W at end.

Voltage Drop Using OHMS Law

Formula: current in AMPS x Resistance in OHMS= Voltage Drop.

Example: 50W / 12V = 4.16A (current in Amps)

1.62 per 1,000' /10 = .162 (Resistance in OHMS)

4.16A X .162 = .674 Volt Drop

12V- .674 volt drop= 11.32V at fixture

Using Nightscaping® Formula

100FT. (Length on Run) x 50W (total Watts on run) 7500 (cable size constant)= .666 volt drop.

12V- .666 volt drop= 11.33 V at fixture.

Nightscaping®